

PX31

Telegram Open Network (TON) Investment Memo

Team [REDACTED]

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BUSINESS DESCRIPTION

Telegram (founded 2013) is a top 5 global messaging app with 180M monthly active users and 90M daily active users, who send 70 billion messages a day, which is growing by 500k new users each day. Telegram was launched in 2013 by the brothers Nikolai and Pavel Durov, who had previously founded the Russian social network VK, but had to leave the company after it was taken over by the Mail.ru Group. Telegram is registered as both an English LLP and an American LLC. Telegram is group communication product, with a proprietary encryption algorithm, that supports both person to person chat and group channels which support unlimited participants. It also includes a Bot platform with over 800k unique third-party bots regularly used by over 50M of Telegram users. These bots can already accept credit card payments from users in 200 countries across eight providers connected to the existing Telegram Payments Platform.

Telegram's new objective is to deliver a truly mass-market cryptocurrency (called "GRAM") that will be used for payments and consumer-facing distributed apps (dApps) in everyday life. One of the largest hurdles to widespread consumer adoption of cryptocurrencies today is that they are complicated to buy, sell and use. There is a parallel to TCP/IP, which enabled the internet but did not see widespread adoption until Netscape abstracted away technical details and offered a simple experience.

Furthermore, previous payment networks, including Bitcoin, suffer from limited throughput. Whereas Visa can process 24,000 transactions per second, Bitcoin can process less than ten. Many cryptocurrencies have been designed by crypto-anarchists ideologues who despise governments but have little distributed systems background, which has limited performance.

This has created the opportunity for TON. Telegram's ambition is to enable mass adoption of smart contracts and cryptocurrency by offering simple and easy to use interfaces and a third-party application platform. The company plans to deeply integrate its GRAM token initially by adding a cryptocurrency wallet, the "TON wallet", into the Telegram application, allowing millions of users to store funds securely on the TON blockchain. The service will be truly decentralized; only wallet owners will hold their corresponding private keys.

Telegram messenger is built on encrypted distributed data storage. It will use this expertise to create a fast, scalable multi-blockchain architecture. TON will be like a decentralized supercomputer and value transfer system. By combining minimum transaction time with maximum security, TON can become a VISA/MasterCard alternative for the new decentralized economy. GRAM tokens will serve as the principal currency for the in-app economy on Telegram and will also be available for external use. Existing bot platforms, channels and groups on Telegram should provide a natural market for paid digital content services and physical goods. Telegram's existing user base is 80% from emerging markets. These are the same markets that require solutions for digital payments to facilitate eCommerce and mCommerce, but which don't yet have the credit bureau infrastructure to support the digital payments systems of the West or China.

At the core of the platform is the TON Blockchain – a scalable and flexible blockchain architecture that consists of a master chain and 2⁹² accompanying blockchains. To achieve scalability, TON has built-in support for sharding, automatically splitting and merging to accommodate changes in load. The TON blockchain uses a proof-of-stake approach, in which miners deposit stakes to guarantee their dependability and reach consensus through a new consensus protocol. Staking also reduces resource waste from mining, a problem many worry about with Bitcoin.

On top of the TON Blockchain is the TON platform, which consists of TON Storage (a distributed file-storage technology), TON Proxy (a network proxy/anonymizer layer), TON Services (a platform for third-party services that enables smartphone-like friendly interfaces for decentralized apps), TON DNS (a service for assigning human readable names to entities accounts, apps, and services), and TON Payments (a platform for micropayments and value transfer). These services would allow dApp developers to spend less time on infrastructure and ensure that dApps built on the platform cannot be censored.

At launch, the Telegram TON wallet will become the world's most adopted cryptocurrency wallet. Telegram will leverage its existing ecosystem of communities, developers, publishers, payment providers, and merchants to drive demand and value for the TON currency. A new economy of goods and services will be sold, similar to WeChat's fiat-based marketplace, but not confined to a centralized service. Telegram's existing ecosystem will offer simple ways of buying GRAMS and a range of services to spend them on, driving demand and fundamental value for the cryptocurrency.

The Telegram team plans to launch the TON network and integrated TON wallet in Q4 2018. The public ICO is scheduled for Q1 2019. The TON Platform (Storage, Proxy, Services) will go live in Q2 2019.

MARKET AND COMPETITION

TON is a very high-profile project that could potentially bring cryptocurrencies to the next level in terms of mainstream adoption. It is also taking a very big swing – building “one coin to rule them all” that is literally a superset of just about every major coin/platform that currently exists, including Bitcoin, Ethereum, Filecoin, NameCoin, Orchid, BlockStack, Zeplin, and more.

Telegram has some key advantages. Its messaging application has already 180M users which would make it de facto the largest cryptocurrency wallet provider in the world. Their engineering team is truly world-class and has demonstrated (with their messaging app) that they can deliver a user friendly and secure application to hundreds of millions of users. It is also the leading communication platform for cryptocurrency today, with 84% of upcoming blockchain projects having a Telegram group. Telegram is also used as the predominant community platform for those actively buy/selling tokens, which we believe will drive up the price of TON's Gram coin post initial launch

One comparable is Kin. Kik Messenger (Canada, founded 2009), with 15M MAU, launched an ICO for their Kin coin in September 2017 and raised \$98M. Over half of their audience is US teens and young adults. The Kin market cap reached \$1.1B on January 6th, 2018.

The other competitive threat to the Telegram initiatives are from yet-to-be announced plans of Facebook (WhatsApp, Messenger), WeChat, and/or Line, all messaging products with greater global reach than Telegram. Mark Zuckerberg, CEO of Facebook, announced in his 2018 New Year's speech that their company plans to study how to best use blockchain in its services in the coming year. David Marcus, President of Facebook Messenger, was previously President of PayPal and an early Bitcoin enthusiast and recently joined the board of Coinbase. So we think that it is likely that Facebook may roll out some sort of internal currency system. However, timing is

uncertain as Facebook may see regulatory hurdles issuing a currency similar to Telegram's GRAM, due to US securities laws.

EXECUTIVE TEAM

Pavel Durov, Co-founder / CEO: Previously was Co-founder and CEO of VKontakte, the Facebook competitor in Russia with 400M+ users.

Nikolai Durov, Co-founder / CTO: Previously was Co-founder and CTO of VKontakte, the Facebook competitor in Russia with 400M+ users. Absolute World Champion in Programming 2000, 2001. One of ten people in history to win the ACM International Collegiate Programming Contest twice. Gold Medals in International Math Olympiads (1996, 1997, 1998). Gold and Silver Medals in International Informatics Olympiads (1995, 1996, 1997, 1998).

Telegram also has a very impressive team of 25 people, of which 15 are developers, all of which have won national or international programming competitions and/or International Math Olympiad medals. The core team members have ten years of experience in building scalable distributed systems used by hundreds of millions of people.

DEAL

Telegram has been personally funded by the founders to date. The company is planning an ICO (Initial Coin Offering) of 5 billion GRAM tokens. Approximately 50% will be sold to investors through a private pre-sale and a public ICO while the balance will be kept as reserve by the company. Two billion tokens will be sold through the private pre-sale in January 2018 at a price per token of \$0.378 (62% discount), raising approximately \$850M. Approximately 500M tokens will be sold in March 2018 through a public ICO at an average price of \$1.45, raising \$1.15B. The total amount raised will likely be \$2B.

The private sale will be done through a SAFT (Simple Agreement for Future Tokens) with a vesting schedule as follow: 25% locked up for 3 months after token trading begins on exchanges (Q1 2019), 25% for 6 months from the same date, 25% for 12 months and 25% for 18 months. In the case of failure to deliver the tokens by the end of Q4 2019, the company will return the investments of the private pre-sale participants. Taking into account the total number of tokens (5B), the private sale will value the asset at a market cap of \$1.89B (\$0.378 * 5B).

Ten percent of the supply will be reserved to be used as incentives for the ecosystem – to encourage installation of third party validators and TON Storage/Proxy nodes, and to reward users for activating wallets and passing KYC/AML. Four percent will be reserved for the development team with a 4-year vesting period. During the initial stage of the active TON development, at least 42 percent of the entire supply will be retained by the TON Reserve to protect to cryptocurrency from speculative trading and to maintain flexibility as the ecosystem evolves.

The team's goal is to have widespread global investors and therefore have allocated 1/3 to EMEA, 1/3 to APAC, and 1/3 to North America. Of the 1/3 of the round allocated to North America (~\$280M), the allocation will be further split equally between US venture funds, US crypto funds, and HNWI individuals/entrepreneurs. We estimate this equates to \$95M allocated to all participating US venture capital funds. We know that [REDACTED], [REDACTED] and [REDACTED] are participating. [REDACTED] has the opportunity to invest \$25M for ~1% of Gram tokens.

The check size, time pressure and unusual nature of this deal make it non-traditional. However, the return opportunity, ability to participate in what could be a category defining investment (similar to the Netscape IPO in the early 90s), ability to learn and position ourselves to win future ICOs, and the presence of our peer firms warrants serious consideration. This investment will require less active deal management but instead involve more active management of exit timing and trade execution.

The below table recapitulates the returns we can expect if this coin becomes a top 20, top 10, top 3 and top 1 coin by market cap.

	Top 20	Top 10	Top 3	Top 1
Compare to:	Lisk	Dash	Ripple	Bitcoin
Market Cap	\$3B	\$8B	\$78B	\$228B
TON Return Multiple	2x	5x	52x	151x

We expect the token to become a top 10 coin given the company's high profile, the project's magnitude, and the cryptocurrency community's dominant use of the product, which would lead to a return of 2-5x within 12 months post launch. The blue-sky scenario of becoming a top 1 coin would lead to a return of 150x. This compares with older projects like Ethereum or Bitcoin where the likelihood of making a decent return was much lower but the blue-sky scenario return (which happened) was in the region of 1,000x to 10,000x.

INVESTMENT THESIS

Cryptocurrencies and other blockchain-based technologies have the potential to make the world more self-governed and to massively disrupt many industries, starting with financial services. However, to this day, no consensus-backed currency has been able to appeal to the mass market and reach global mainstream adoption. Because of Telegram's wide global reach today, an exceptional team with distributed systems experience, and an easy-to-use consumer product experience, TON could be that disruptor.

This opportunity is different. We have had a limited chance to learn about the team and the long-term vision. We can form a view of the value if it is achieved, but have a tougher time forming a view of the risks and likelihood of that outcome. We also won't be able to influence that outcome.

But we also believe that because of the discount offered to participants in the resale, market conditions, momentum and scarcity, this coin will go up sharply in price in the short term. It could offer a return comparable to what we might see from a VC investment (5-10x) that is realizable in 3-6 months (once the lockup begins to expire) instead of 7-9 years. We believe that our unique advantage as VCs here is not our ability to form a view on

the long-term value and influence that outcome, but access. This presale is being offered to “blue chip” VCs that can help signal quality to other investors in the ICO and public market. That is why our peer firms and ourselves are being offered the opportunity. This access is more like a “friends and family” allocation in a hot IPO than a traditional VC round.

HIGHLIGHTS & RISKS

HIGHLIGHTS

- Exceptionally experienced founders with a proven track record of reaching hundreds of millions of users around the world
- Opportunity to invest in a token that could prevail as the leading store of value and smart-contract platform
- Differentiated technical team in a fast-moving market long dominated by crypto-libertarians
- Lots of traction from influencers within the cryptocurrency space leads to a strong consumer narrative
- In the company of our peer firms
- 2-5x growth potential in the first year with a liquid market for us to reclaim value, with 100-200x growth potential in follow-on years.

RISKS

- Global cryptocurrency market could see a downturn impacting all tokens
- The new product initiatives are not complete
- The scale of ambition of the company is extremely broad
- The complexity of a messaging product is much less than a decentralized application platform market
- The team is small and decentralized
- The founders of Telegram will have full control over the capital raised w/o a typical board of directors